Application No.: 10/018,060

Amendment Dated: December 11, 2003

Reply to Office action of: July 11, 2003

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:



1. (Currently Amended) A security reversible-key with at least three coding/tumbler pin rows (A1, A2, A3) located on the flat sides of the key (S), with an assigned cylinder (Z) with tumbler_pin rows of pairs of tumbler pins, said tumbler pin pairs consisting of tumbler pins and counter pins at the positions of the tumbler_coding pin rows of a given bore pattern, wherein:

the key has a blocking groove BN (BN) in a coding pin row (A1, A2) that runs parallel to an axis (x) of the key from a tip of the key to at least a first coding position (P1) of a tumbler the coding pin row on the key,

the blocking groove has a coded blocking depth (B1, B2, B3) <u>andthat</u>, in the assigned cylinder at least at a rearmost coding position (P1)(P1'), a pair of <u>blocking</u> tumbler pins corresponding to the blocking groove (BN) with a blocking tumbler pin (BZ) and an extended blocking counter pin (BG) are received,

so that the blocking counter pin impinges on the cylinder housing (10) if the blocking groove is not deep enough and complete insertion of a key with an insufficiently deep blocking groove is blocked by the pair of blocking tumbler pins and whereby the blocking tumbler pin (BZ) together with the blocking counter pin (BG), following insertion of the key at the rearmost-first coding position (P1) on the key, is also utilized as a coding tumbler pin with coding steps (C1, C2, C3, C4) for turning of the cylinder.

2. (Currently Amended) The key in accordance with claim 1, wherein at least four rows of tumbler pinscoding/tumbler pin rows (Al - A4) are provided.

- 3. (Previously Presented) The key in accordance with claim 1, wherein at least two different codings (Cod1, Cod2) are provided.
- 4. (Previously Presented) The key in accordance with claim 1, wherein coding positions (Pi) from two different bore patterns (R, L) are provided.
- 5. (Currently Amended) The key in accordance with claim 1, wherein the blocking groove, which runs to at least the first and rearmost two coding positions (P1, P2) at the very front of a coding pin row (A2) and by blocking tumbler pins BZ1, BZ2 (BZ1, BZ2) and blocking counter pins BG1, BG2 (BG1, BG2) corresponding to the coding positions, with coded step depths of these at least two positions at the very front.
- 6. (Currently Amended) The key in accordance with claim 5, wherein the blocking groove has at least two differently shaped sectors BN1, BN2(BN1, BN2).
- 7. (Previously Presented) The key in accordance with claim 1, wherein the blocking groove extends over more than one coding position and whereby the depth (tb) of the blocking groove is constant or decreases from one coding position (P1) to the next coding position (P2).
- 8. (Previously Presented) The key in accordance with claim 1, wherein the blocking groove extends over more than one coding position and whereby the width (bb) of the blocking groove remains constant or decreases from one position (P1) to the next position (P2).
 - 9. (Currently Amended) The key in accordance with claim 1, wherein at

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more than one <u>coding pin</u> row of tumbler pins (A1, A2), respectively, one blocking groove each with assigned pairs of blocking tumbler pins is provided.

- 10. (Currently Amended) The key in accordance with claim 1, wherein, as an additional security element, a rising control face KF_(KF) is disposed only at the tip of the key, said control face KF_(KF) pushes an assigned control pin KS-(KS) out of the way, whereby the control pin (KS) KS prevents insertion of a key without a control face (KF)KF.
- 11. (Currently Amended) The key in accordance with claim 10, wherein the control pin KS-(KS) is a flat pin (23), which also carries out a flank control at a narrow coding milling (Cod2).
- 12. (Currently Amended) The key in accordance with claim 1, wherein, in a coding pin row of tumbler pins (A2), the following security elements are located: blocking code (BC), second coding (Cod2), insertion blocking preventing system by means of control face (KF) and control pin (KS) as well as flank control by means of a flat pin (23).
- 13. (Currently Amended) A locking system with security reversible keys fer locking systems-with at least three coding/tumbler pin rows (A1, A2, A3), which are also located on the-flat sides of the keys (S), with assigned cylinders (Z) with tumbler pin rows of pairs of tumbler pins, said tumbler pin pairs consisting of tumbler pins and counter pins at the positions of the coding pin rows of a given bore pattern and with at least two additional safety security elements, wherein at least two areas on the keys are defined such that, in a first area (G1), at least two additional security elements with a higher degree of manufacturing difficulty are provided and, in the second area (G2), a more simple basic coding (Cod1) is provided, and wherein, with the first area (G1) an unequivocal segmentation into independent market areas (MI, M2, ...) is defined whereby the first area (G1) has, as an additional security element, a blocking code

Bb

(BC),

the keys have a blocking groove (BN) that runs parallel to an axis (x) of the key (x)-from a tip of the key to at least a first coding position (P1) of the coding a tumbler pin row on the key,

the blocking groove has a coded blocking depth (B1, B2, B3), and, in the assigned cylinder at least at the rearmost coding position (P1)(P1'), a pair of blocking tumbler pins with a blocking tumbler pin (BZ) and an extended blocking counter pin (BG) corresponding to the blocking groove (BN) are provided such that the blocking counter pin BG-(BG) impinges on the cylinder housing (10) if the blocking groove is not deep enough to thereby block complete insertion of a key with an insufficiently deep blocking groove by the pair of blocking tumbler pins, and whereby the blocking tumbler pin (BZ) with the blocking counter pin (BG), after insertion of the key at the rearmost-first coding position (P1), is also utilized as a coding tumbler pin

14. (Currently Amended) The locking system in accordance with claim 13, wherein, as security elements in the first area (G1), a second coding (Cod2), an insertion blocking preventing means comprising a control faces face (KF) at the tip of en-the key and an assigned control pin (KS) in the cylinder, and a flank control comprising a flat tumbler pin (23) and a blocking code (BC) are provided.

with coding steps (C1, C2, C3, C4) for turning of the cylinder.

- 15. (Previously Presented) The locking system in accordance with claim 13, wherein, the keys include areas having different bore patterns (R, L).
- 16. (Previously Presented) The locking system in accordance with claim 13, wherein at least three security elements are provided in the first area (G1).
- 17. (Previously Presented) The locking system in accordance with claim 13, wherein, as security elements, a second coding (Cod2) with a narrow milling is provided.

Application No.: 10/018,060

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18. (Currently Amended) The locking system in accordance with claim 13, wherein all security elements of the first area (GI) are affixed in one coding <u>pin</u> row (A2).

- 19. (Previously Presented) A method for manufacturing keys and cylinders of a locking system with at least two areas (GI, G2) on the keys (S) in accordance with claim 13, wherein first the first area (G1) on the keys is manufactured in a central place of manufacture (HI), and that the coding (Cod1) of the keys of the second area G2 and the equipping of the cylinders with corresponding pins is subsequently manufactured at a remote location by local representative (H2).
- 20. (Previously Presented) The method in accordance with claim 19, wherein manufacturing takes place in at least two steps at different locations, whereby first variables with a higher degree of difficulty (HS) of the first area (GI) are manufactured at a central location and subsequently variables with a lower degree of difficulty of the second area (G2) are manufactured in a second decentralized location.
- 21. (Previously Presented) The method in accordance with claim 19, wherein manufacturing of the keys takes place in at least three steps, whereby first the first area (GI) with variables of the highest degree of difficulty is manufactured centrally (HI), thereupon a further area (G1/2) with variables with a lower degree of difficulty is manufactured regionally (H1/2) and finally the coding with the lowest degree of difficulty of the second area (G2) is manufactured locally at the place of application (H2).
- 22. (Previously Presented) The method in accordance with claim 19, wherein the manufacturing of the first area (GI) is also able to take place decentralized, whereby manufacturing programs and authorization for a desired operation are controlled and checked from a central location.